

Micronoctua karsholti gen. et sp.n. : an astonishingly small noctuid moth (Noctuidae)

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Summary

A new genus and species of the family Noctuidae, *Micronoctua karsholti*, gen.n., sp.n. is described. The new species, which is characterised by its extremely small size, has been found in southern Turkey and on the south-eastern Greek islands.

Zusammenfassung

Aus der Familie Noctuidae werden eine neue Gattung und eine neue Art, *Micronoctua karsholti*, gen.n., sp.n., beschrieben. Die neue Art, die durch eine besonders kleine Grösse charakterisiert ist, wurde in der südliche Türkei und auf den südöstliche griechischen Inseln gefunden.

Résumé

Un nouveau genre et une nouvelle espèce de la famille des Noctuidae, *Micronoctua karsholti*, gen.n., sp.n., sont décrits. La nouvelle espèce, caractérisée par sa taille extrêmement réduite, a été trouvée dans le sud de la Turquie et les îles grecques du sud-est.

Introduction

This monotypic new genus has few similarities with other known Noctuidae in the world. It has so far remained undetected, probably because of its extremely small wingspan and its occurrence in what was until recently a sparsely collected area in southern Greece and Turkey.

Over many years I have collected moths in many countries outside my home country, Denmark. I made it a procedure to preserve all the 'Microlepidoptera' for Ole Karsholt of the Zoological Museum, University of Copenhagen. Although I am not an expert in 'Micro-

lepidoptera' at species level, I have tried to cover the diversity and this has resulted in approx. 150.000 specimens for the Museum. Usually I am familiar with the 'Macrolepidoptera' and especially with the noctuid moths of the Palaearctic region, so Ole was apparently delighted when he could inform me that I had overlooked a noctuid moth, represented by more than 30 specimens among preserved 'Microlepidoptera' collected in Turkey in 1986. At first I did not believe him, but when I was informed that the wingspan of the species was on average 7.5 mm, about the size of an elachistid moth, it seemed possible.

Niels Peter Kristensen dissected some of these specimens and on the basis of the morphology (i.e. presence of tympanal organs) he confirmed that the species belongs to the family Noctuidae. With the kind assistance of Ian Kitching, some specimens were presented for examination at the famous 'coffee-break-corner' of the Entomology Department in the Natural History Museum in London. Nobody knew what it was and after further dissection Ian Kitching suggested that the species should be placed in a new genus in the (sub)family Noli(nae)dae — or Acontiinae. Later Don Lafontaine, Ottawa and Laszlo Ronkay, Budapest examined some specimens and confirmed the species to belong to the Noctuidae.

Additional specimens have also been recorded from the Greek islands of Rhodes, Kos, Samos and Crete and from southern Turkey.

Micronoctua, gen.n.

Type species : *Micronoctua karsholti*, sp.n.

Description

The genus is monotypical and established to include the smallest known species of the Noctuidae, at least in the Holarctic region. Wingspan : ♂ 6.2-8.6 mm, (average 7.5 mm, n = 53), ♀ 7-8.2 mm, n = 3 (Figs. 1-4). Male antenna finely pubescent, appearing triangular because of dark grey tufts of scales posteriorly on each segment. Female antenna filiform, with scales. Frons smooth, flat. Eye naked. Labial palpi straight, with grey scales suffused with black, 2nd segment twice as long as 3rd. Two pairs of each two long, narrow spurs, median and apical, on hind tibia. One apical pair of spurs on mid tibia. Head, tegula, patagium and thorax with grey scales. Abdomen light grey.



Fig. 1. Holotype ♂, *Micronoctua karsholti* gen.n., sp.n., Turkey, Prov. Antalya, 40 km N Alanya, 5 km S Gündogmus, 1100 m, 14.vii.1987 (leg. M. Fibiger).

Fig. 2. Paratype ♂, *M. karsholti* sp.n., Greece, Rhodos, 2 km NW Lindos, 50 m, 24.v.1993 (leg. R. Sutter).

Fig. 3. Paratype ♀, *M. karsholti* sp.n., Greece, Samos, Kokkari, 10 m, 20.vi.1996 (leg. R. Sutter).

Fig. 4. Sketch of right half of ♂ *M. karsholti*.



Fig. 5. Venation of forewing of *M. karsholti*.

Wing shape and venation. Forewing narrow, elongated, costa almost straight, slightly concave basally, apex blunt (Fig. 5). Venation reduced in both wings. Subcostal vein 12 (Sc) reaching beyond middle of wing. Radial vein 10 (R) and 8 (R) stalked anteriorly. Radial vein 9 (R) absent, Radial vein 7 (R5) separate. Three median veins. Two cubital veins. Only one anal vein 1b (A2) present. Hindwing elongated by apex, resulting in invaginated termen, (due to the preparation wing is slightly folded at vein 1b (2A) in Fig. 6). Half of veins reaching termen weakly marked, strongly reduced : median veins 5 (M2), 4 (M3), cubital vein 3 (Cu), anal veins 1a (3A) and 1b (2A). Other veins well marked : subcosta stalked together with radial vein 8 (Sc + R), radial vein 7 (Rs) and median vein 6 (M) branched from 8 by $1/4$ from base of wing, 7 and 6 branched $3/4$ from base of wing, cubital vein 2 (Cu) branched half way towards termen into 2b (Cu) and 2a (Cu). Median cross-vein between 6 (M1) and 5 (M2) hardly visible. Connection by cell slightly stronger.

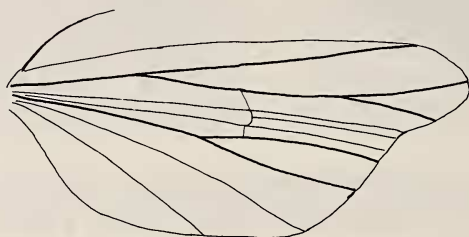


Fig. 6. Venation of hindwing of *M. karsholti*.

Male genitalia (Fig. 7) : Uncus absent. Tegumen narrow. Valve narrow basally, prominent, foot-shaped at cucullus, pubescence mixed with long, fine setae posteriorly. Costa with broad, triangular process, pubescent apically. Saccus small, short and rounded. Aedeagus bent medially. Vesica not everted, scobinate basally.

Female genitalia (Fig. 8) : Ovipositor rounded, with fine, long setae. Ductus bursae very long and narrow. Anterior half of corpus bursae narrow, posterior half globular, adorned inside with tiny cornuti. Ductus seminalis arises at base of corpus bursae.

Distribution

Eastern Mediterranean. *Micronoctua karsholti*, sp.n. is recorded from south-western Turkey and south-eastern Greece, on the islands of

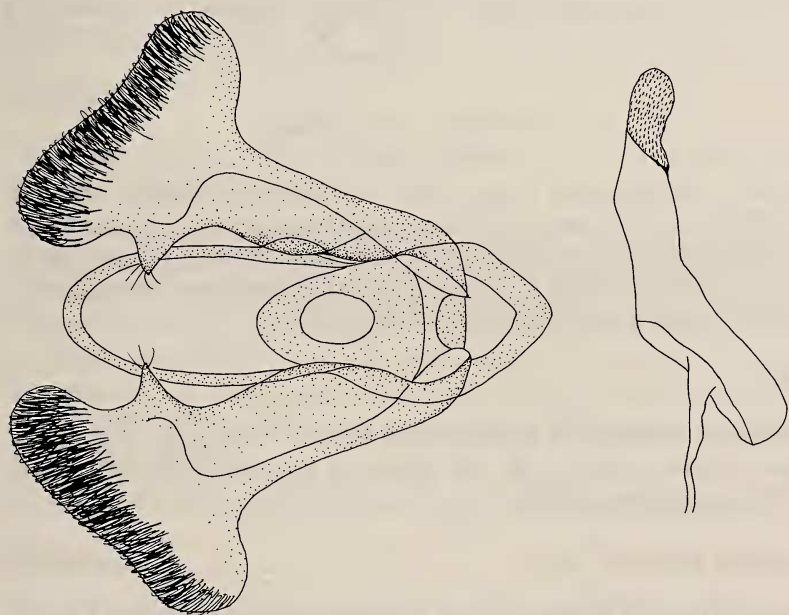


Fig. 7. Male genitalia, aedeagus separated, of *M. karsholti*.

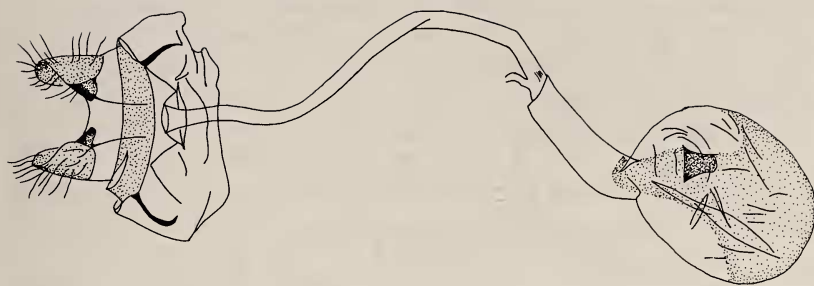


Fig. 8. Female genitalia of *M. karsholti*.



Fig. 9. Distribution of *M. karsholti*.

Samos, Kos, Rhodes and Crete (Fig. 9). There is probably also an old record from Crete based on Reisser (1974), who lists an "*Anachrostis* spec." from Episkopi near Rethymnon, 150 m, in October. Unfortunately, it has not been possible to examine this (or these) specimen(s) (coll. Landessammlungen für Naturkunde, Karlsruhe).

Remarks

The systematic position of *Micronoctua*, gen.n. is uncertain. The genus is placed *incertae sedis* as the last genus in the subfamily Acontinae (see Fibiger & Hacker, 1991).

Micronoctua karsholti, sp.n.

Holotype ♂ (Fig. 1). **Turkey** : Prov. Antalya, 40 km N Alanya, 5 km S Gündogmus, 1100 m, 14.vii.1987 (*M. Fibiger*), coll. M. Fibiger.

Paratypes. **Turkey** : 4 ♂, same data as holotype ; 30 ♂, 1 ♀, Prov. İçel (Mersin), Taurus, road Ermenek - Mut, 600 m, 15.vii. 1986, 1 ♂, gen. prep. 2169 L. Ronkay (*M. Fibiger*) ; 10 ♂, Prov. İçel (Mersin), Taurus, 27 km N Anamur by road Anamur - Ermenek, 750 m, 13.vii.1987, 1 ♂, gen. prep. 4727 O. Karsholt (*M. Fibiger*) ; 4 ♂, Prov. Mugla, 20 km N Marmaris, Cetibeli, 10 m, 12.vii.1992, 1 ♂, gen. prep. 1574 A. Scholz (*A. Lingenhöle*) ; 2 ♂, 2 ♀, Prov. Mugla, Degirmanyani, 300 m, 17.ix.1995 (*F. Iversen*) ; 11 ♂, 1 ♀, Prov. Mugla, Torunc, 650-750 m, 20-21.ix.1995 (*F. Iversen*) ; 3 ♂, Prov. Antalya, Palaz Dagi NE Akseki, 1500 m, 18.VII.1994 (*W. De Prins*) ; 2 ♂, Prov. Konya, 12 km SE Bozkir, 1350 m, 19.VII.1994, (*W. De Prins*) ; **Greece** : 5 ♂, 1 ♀, Rhodes, Ixia, 12-26.vi.1976, 1 ♂, gen. prep. 6376 L. Gozmány, 1 ♀ (allotype), 19.vi.1976, gen. prep. 4774 O. Karsholt (*C.Å. Petersson*) ; 1 ♂, Rhodes, Lalyssos, 5 km SW Rhodes, -.viii.1982 (*P. Olsen*) ; 1 ♂, Kos, Asfendion, 6-12.x.1988 (*R. Johansson*) ; 1 ♂ (Fig. 2), Rhodes, 2 km NW Lindos, 50 m, 24.v.1993 (*R. Sutter*) ; 4 ♂, Crete, Bali, 40 km W Heraklion, 2-6.x.1994 (*R. Sutter*), 1 ♀ (Fig. 3), Samos, Kokkari, 10 m, 20.vi.1996 (*R. Sutter*). Material distributed in colls : M. Fibiger (Denmark), W. De Prins (Belgium), G. Derra (Germany), B. Goater (England), H. Hacker (Germany), M. Hreblay (Hungary), O. Karsholt (ZMUC), I. Kitching (BMNH), D. Lafontaine (CNC), A. Lingenhöle (Germany), L. Ronkay (TMB), G. Ronkay (Hungary), and R. Sutter (Germany).

Description

Male and female. Head, thorax, abdomen, legs, wing and venation described under the genus.

Ground colour of forewing light grey suffused with dark greyish brown scales. Conspicuous bright yellow reniform spot, outlined black by the median line. Crosslines generally weakly marked, hardly distinguishable in dark specimens (light grey specimen illustrated on Fig. 4). Position of basal, antemedian, median, postmedian, subterminal and terminal line marked by small, dark costal spots. Black terminal spots present between the veins. Fringes long, dark grey. Hindwing and fringes unicolorous light grey.

The male and female genitalia are described under the genus.

Bionomics

Known habitats are the xerotherm Mediterranean maquis terrain, with bushes, grasses and other low plants, and open areas with *Pinus* trees.

The moth has been recorded at light, most of them on 8 watt super actinic tubes, from May to October, possibly occurring in several broods. The early stages are unknown.

Acknowledgements

I wish to express my particular gratitude to Ole Karsholt, who first recognised the new species as a noctuid moth, and to Keld Gregersen for the drawings, to Niels Peder Kristensen, Leif Lyneborg, G. Brovad (photo) (ZMUC), I. Kitching (BMNH), L. Ronkay and L. Gozmány (TMB), Don Lafontaine (CNC) for their studies and/or suggestions, R. Johansson (Sweden), A. Scholz (Germany), R. Sutter (Germany), F. Iversen and P. Olsen (Denmark), for loan of material. As usual I wish to thank my patient wife, Mariann, and Barry Goater for checking my English.

Literature

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